

AMENDMENTS TO THE CLAIMS

In the Claims:

Please cancel Claim 2 without prejudice and amend Claims 1, 3 and 4. Please add new Claims 5-21. A complete copy of the claims including marked-up versions of each claim which is amended in this Amendment B appears below.

1 1. (Currently Amended) A system for facilitating communication between fixed and
2 handheld devices using infrared communication, devices, said system comprising:
3 a) ~~an initiating~~ a first infrared transmitter and ~~an initiating detector~~; a first infrared
4 receiver, said first infrared transmitter and said first infrared receiver being located in said
5 fixed device, said fixed device having a normal mode in which said first infrared
6 transmitter transmits ranging pulses and said first infrared receiver detects those of said
7 ranging pulses transmitted from said first infrared transmitter which are reflected by an
8 object located in a predetermined area, said fixed device also having a communication
9 mode;
10 b) a ~~receiving~~ second infrared transmitter and a ~~receiving detector~~; ~~said receiving~~
11 ~~transmitter configured to transmit pulses~~; second infrared receiver, said second infrared
12 transmitter and said second infrared receiver being located in said handheld device;
13 e) ~~initiating~~ second control logic located in said handheld device which is
14 configured to cause an Attention Signal to be emitted from said initiating second infrared
15 transmitter, said initiating transmitter Attention Signal being received by said first

16 infrared receiver if said second infrared transmitted in said handheld device is located
17 within detection range of said ~~receiving detector~~; first infrared receiver; and
18 ~~d)~~ receiving first control logic located in said fixed device which is configured to
19 discontinue transmission of pulses of ~~the receiving~~ said first infrared transmitter upon
20 detection of said Attention Signal, whereupon said fixed device changes from said
21 normal mode to said communication mode, thereby allowing an optical link to be
22 initiated between ~~the initiating~~ said first infrared transmitter and ~~initiating detector~~ said
23 second infrared receiver and between ~~the receiving~~ said second infrared transmitter and
24 ~~receiving detector~~. said first infrared receiver.

1 2. (Cancelled).

1 3. (Currently Amended) A system for facilitating communication between first and
2 second infrared devices, said system comprising:

3 a) a ~~receiving~~ first transmitter and a ~~receiving~~ first detector located in said first
4 infrared device;

5 b) a ~~broadcast~~ second transmitter and a ~~broadcast~~ second detector located in said
6 second infrared device, said second infrared device having a normal mode in which said
7 second transmitter transmits ranging pulses and said second receiver detects those of said
8 ranging pulses transmitted from said second transmitter which are reflected by an object
9 located in a predetermined area, said second infrared device also having a communication

10 mode, said broadcast second transmitter transmitting pulses in both said normal mode
11 and in said communication mode;

12 e) broadcast control logic located in said second infrared device and configured to
13 emit from said broadcast second transmitter a broadcast signal Broadcast Signal
14 indicating errors detected in said communication mode; and

15 d) receiving control logic located in said first infrared device and configured to
16 ~~detect by said receiving detector the~~ identify said Broadcast Signal following its receipt
17 by said first receiver.

1 4. (Currently Amended) A method for communicating between fixed and handheld
2 devices using infrared communication, devices, said method comprising:
3 providing a first infrared transmitter and a first infrared receiver which are located
4 in said fixed device, said fixed device having a normal mode in which said first infrared
5 transmitter transmits ranging pulses and said first infrared receiver detects those of said
6 ranging pulses transmitted from said first infrared transmitter which are reflected by an
7 object located in a predetermined area, said fixed device also having a communication
8 mode;
9 providing a second infrared transmitter and a second infrared receiver which are
10 located in said handheld device;

- 11 a) emitting an Attention Signal from ~~an initiating~~ said second infrared transmitter
12 within the detection range of ~~a receiving detector that is coupled to an active receiving~~
13 ~~transmitter that is emitting pulses;~~ said first infrared receiver;
- 14 b) receiving the Attention Signal with ~~said receiving detector;~~ said first infrared
15 receiver if said second infrared transmitted in said handheld device is located within
16 detection range of said first infrared receiver;
- 17 e) discontinuing the ~~pulse emissions~~ transmission of said ranging pulses from ~~the~~
18 ~~active receiving~~ said first infrared transmitter; and
- 19 d) establishing a data link between ~~the receiving~~ said first infrared transmitter and
20 ~~receiving detector~~ said second infrared receiver and between ~~the initiating~~ said second
21 infrared transmitter and ~~initiating detector.~~ said first infrared receiver.

1 5. (New) A system as defined in Claim 1, wherein said first infrared receiver
2 comprises an infrared detector capable of detecting said Attention Signal and said ranging
3 pulses.

1 6. (New) A system as defined in Claim 1, wherein said second infrared receiver
2 comprises an infrared detector capable of detecting signals generated from said first
3 infrared transmitter when said fixed device is in said communications mode.

1 7. (New) A system as defined in Claim 1, wherein said fixed device comprises a
2 fluid dispensing device.

1 8. (New) A system as defined in Claim 7, wherein said fluid dispensing device is
2 actuated to dispense fluid upon the receipt of reflected ranging pulses by said first
3 infrared receiver.

1 9. (New) A system as defined in Claim 1, wherein signals generated from said first
2 infrared transmitter when said fixed device is in said communications mode provide an
3 indication of the operational status of said fixed device.

1 10. (New) A system as defined in Claim 1, wherein signals generated from said
2 second infrared transmitter when said fixed device is in said communications mode are
3 used to interrogate said fixed device.

1 11. (New) A system as defined in Claim 1, wherein signals generated from said
2 second infrared transmitter when said fixed device is in said communications mode are
3 used to program said fixed device.

1 12. (New) A system as defined in Claim 1, wherein signals generated from said
2 second infrared transmitter when said fixed device is in said communications mode are
3 used to provide information relating to the past operation of said fixed device.

1 13. (New) A system as defined in Claim 1, wherein said ranging pulses each comprise
2 a sequence of pulses.

1 14. (New) A system as defined in Claim 1, wherein said ranging pulses comprises
2 pulses having a repetition rate of between two and ten Hertz.

1 15. (New) A system as defined in Claim 1, wherein the data rate of infrared
2 communication signals transmitted between said fixed and handheld devices during said
3 communication mode is approximately 9600 bits per second.

1 16. (New) A system as defined in Claim 1, additionally comprising first coupling
2 between said first control logic and said first infrared transmitter including a first digital-
3 to-analog converter and an first infrared driver, and second coupling between said second
4 control logic and said second infrared transmitter including a second digital-to-analog
5 converter and an second infrared driver.

1 17. (New) A system as defined in Claim 1, wherein said first infrared received
2 comprises a first apparatus for receiving said reflected ranging pulses and a second
3 apparatus for receiving communications signals from said second infrared transmitter.

1 18. (New) A system as defined in Claim 17, wherein said first and second apparatuses
2 are configured in a back-to-back arrangement.

1 19. (New) A system as defined in Claim 1, wherein said first infrared receiver and
2 said second infrared receiver each comprise at least one photo detector.

1 20. (New) A system as defined in Claim 1, first infrared transmitter and said second
2 infrared transmitter each comprise an LED.

1 21. (New) A system as defined in Claim 1, additionally comprising a threshold
2 detector for comparing said reflected ranging pulses to a threshold value.